Physics

COMPUTER MODELING OF P-WAVE SUPERCONDUCTIVITY

Tom Slife, John Deisz*

Physics building
University of Northern Iowa
Cedar Falls, IA 50614
Email: ts488275@uni.edu

In the past superconducting compounds have been discovered with electron pairs in either the s-wave or d-wave states. However, the recent discovery of such compounds as Strontium Ruthenate which appear to have electrons in an atypical p-wave state have created a need for a complete computational model of superconductivity. The model developed is capable of studying all observed types of superconducting states: s-wave, d-wave, and p-wave. The code can also determine the conditions under which superconductivity transitions from d-wave to p-wave, i.e., as a function of electron density.